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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Eginhard Werner Vietz

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ROTHWELL, FIGG, ERNST & MANBECK, P.C.

1425 K STREET, N.W.

SUITE 800

WASHINGTON, DC 20005

EXAMINER

DANG, KET D

ART UNIT

PAPER NUMBER

3742

NOTIFICATION DATE

DELIVERY MODE

07/11/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No. 10/582,408	Applicant(s) VIETZ ET AL.	
	Examiner KET D. DANG	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/02/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 29, 2010 has been entered.

This office action is responsive to the continued examination filed on November 29, 2010. As directed by the amendment: claims 1-16 and 19-27 have been amended, claims 17-18 have been cancelled and no new claims have been added. Thus, claims 1-6 and 19-27 are presently pending in this application.

Response to Amendment/Arguments

2. Applicant's amendments/arguments with respect to claims 1-16 and 19-27 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

3. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing.

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Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

The drawings are objected to because they are **not** in a separate sheet of paper. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-5, 9-16, and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black (.US 5,227,601) in view of Motoi (JP 02127974), Imanaga et al. (JP 08267242), Minkiewicz (US 3,904,845), and Kawamoto (US 5,601,735).

6. Regarding claims 1-3, 9-11,15, 20-21, and 25-27, Black discloses an orbital welding device (abstract) for mobile use for joining a first pipe end 10 (fig. 1) and a second pipe end 12 (fig. 1) along a circumferential joint by means of at least one weld seam (col. 4, lines 12-16; col. 6, lines 14-16)) for producing a pipeline to be laid on land comprising: a guide ring 24 (fig. 2) (abstract) oriented relative to the first pipe end and the circumferential joint, an orbital carriage B (fig. 1) (abstract) displaceably guided at least along a section of the guide ring, a feed device 40 (fig. 1) configured to move the orbital carriage under motor power along the guide ring, a welding head C (fig. 1) (abstract) which is arranged on the orbital carriage B (fig. 1) (abstract) in alignment with the circumferential joint 14 (fig. 1) so that, by moving the orbital carriage, the weld seam is produced at least along a section of the circumferential joint (col. 4, lines 12-16), and a wire feed unit (abstract; col. 7, lines 32-56).

With respect to claims 4-5, Black discloses welding wire W (fig. 2) (abstract; col. 7, lines 32-56).

Black discloses all of the limitations of the claimed invention as set forth above, except for a mobile welding device which is positioned a distance away from the orbital carriage and is connected via the connecting line to the welding head and provided the

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power required for producing the weld seam; an orbital position sensor configured to detect the orbital position of the orbital carriage; and a first process parameter control wherein the first process parameter control is connected to the orbital position sensor and at least to the high-power laser beam source in such a way that laser radiation parameters are automatically adapted as a function of the orbital position of the orbital carriage; a waveguide; and image sensor and processing; and a high-power fibre laser beam source.

However, a mobile welding device which is positioned a distance away from the orbital carriage is known in the art. Motoi, for example, teaches a mobile welding vehicle (A) with a crawler (3) which is a distance away from the steel pipes (see abstract and only figure). Motoi further teaches such a configuration provides a means to travel to the site or field to perform welding operation (abstract) and cost saving due to transporting pipes to a designate location. It would have been obvious to one of ordinary skill in the art to modify Black with teaches a mobile welding vehicle which is a distance away from the orbital carriage of Motoi in order to provide a means to travel to the site or field to perform welding operation and cost saving due to transporting pipes to a designate location.

Similarly, the connecting line to the welding head and provided the power required for producing the weld seam; and an orbital position sensor for detecting the orbital position of the orbital carriage are known in the art. Imanaga, for example, teaches the connecting line to the welding head (para. 0010) and provided the power required for producing the weld seam; an orbital position sensor 21 (fig.1) for detecting

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the orbital position of the orbital carriage; and a first process parameter control which is connected to the orbital position sensor (abstract) (para. 0018, 0032, and 0036-0037).

With respect to claims 12-14 and 22-24, Imanaga teaches a sensor image processor 22 (fig. 1) (abstract; para. 0012, 0019, and 0046).

Imanaga further teaches such a configuration provides continuous orbital welding (para. 0036). It would have been obvious to one of ordinary skill in the art to modify Black with the features set forth above of Imanaga in order to provide continuous orbital welding.

In addition, a first process parameter control wherein the first process parameter control is connected to the orbital position sensor and at least to the high-power laser beam source in such a way that laser radiation parameters are automatically adapted as a function of the orbital position of the orbital carriage is known in the art. Minkiewicz, for example, teaches a control unit (30) is adapted to control automatically ON and OFF the positions of the welding head (23) according to preset programs (col. 5, lines 6-33). Minkiewicz further teaches such a configuration provides a means to synchronize the carriage positions with the welding head along circular movements (5, lines 13-180. It would have been obvious to one of ordinary skill in the art to modify Black in view of Motoi and Imanaga with the features of Minkiewicz in order to synchronize the carriage positions with the welding head along circular movements.

Furthermore, the high-power laser beam source and a waveguide are also known in the art. Kawamoto, for example, teaches laser beam source or fibre laser beam 16A (fig. 10) (col. 8, lines 21 – col. 9, lines 2) and a waveguide (abstract; col. 5,

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lines 5-14). It is known in the art that such a configuration provides a welding system in which the laser source is brought close to the pipe joint to be welded so that energy is not lost through beam attenuation and so that accuracy of the weld spot is not lost due to sags inherent in a long pipeline. It is also known in that such configuration provides a welding system in which the laser beam on a carriage assembly located in the neighborhood of the pipe joint is accurately delivered to the welding joint using a reflecting surface or a laser beam conductor to perform a 360° weld about a pipeline while maintaining the alignment of the laser generation and transportation system to deliver the focal power precisely along the pipe joint to be welded. It would have been obvious to one of ordinary skill in the art to modify Black in view of Motoi, Imanaga, and Minkiewicz with laser beam source and a waveguide of Kawamoto in order to provide a welding system in which the laser source is brought close to the pipe joint to be welded so that energy is not lost through beam attenuation and so that accuracy of the weld spot is not lost due to sags inherent in a long pipeline. And also provides a welding system in which the laser beam on a carriage assembly located in the neighborhood of the pipe joint is accurately delivered to the welding joint using a reflecting surface or a laser beam conductor to perform a 360° weld about a pipeline while maintaining the alignment of the laser generation and transportation system to deliver the focal power precisely along the pipe joint to be welded.

7. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black (.US 5,227,601) in view of Motoi (JP 02127974), Imanaga et al. (JP 08267242),

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Minkiewicz (US 3,904,845), and Kawamoto (US 5,601,735) as applied to claims 1-5, 7-16, and 19-27 above, and further in view of Marhofer et al. (US 5932123).

Black in view of Motoi, Imanaga, Minkiewicz, and Kawamoto disclose all of the limitations of the claimed invention as set forth above, except for a gas metal arc welding (GMAW) head and its components.

However, a gas metal arc welding (GMAW) head and its components are known in the art. Marhofer, for example, teaches a gas metal arc welding (GMAW) head and its components (abstract; col. 1, lines 24-40; see figure 3; col. 2, lines 60 – col. 3, lines 8; col. 5, lines 5-20). It is known in the art that such a configuration provides a means of flexibility in enabling the welder to vary different welding parameters during the welding process. It would have been obvious to one of ordinary skill in the art to modify Black in view of Motoi, Imanaga, Minkiewicz, and Kawamoto with a gas metal arc welding (GMAW) head and its components of Marhofer in order to provide a means of flexibility in enabling the welder to vary different welding parameters during the welding process.

With respect to the limitation “welding by the laser beam is combined with welding by the GMAW head in such a way that the laser beam and the GMAW arc weld simultaneously during movement of the orbital carriage”, the combination of Black in view of Motoi, Imanaga et al., Minkiewicz, Kawamoto, and Marhofer et al. fully meets the above limitation as claimed because the prior arts teach the combination of welding head with the torch or welding wire as one unit. Therefore, it is known in the art that such a configuration provides non-interruption during the welding pass.

Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Foulkes (Us 4,591,294) discloses welding and laying pipelines.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571)270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D. DANG/
Examiner, Art Unit 3742
June 29, 2011

/Henry Yuen/
Supervisory Patent Examiner, Art
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